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The Association Between Sexual Violence and Suicidal Ideation Among Transgender Women and the Role of Gender-Affirming Healthcare Providers in Seven Urban Areas in the United States, 2019 to 2020

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Abstract

Transgender women are disproportionately affected by sexual violence and corresponding mental health sequelae; however, many do not access healthcare due to experiences with transphobia. This analysis evaluated the association between sexual violence and suicidal ideation and the moderating effect of having a healthcare provider (HCP) with whom transgender women were comfortable discussing gender-related issues (“gender-affirming HCP”). We analyzed cross-sectional data from the Centers for Disease Control and Prevention’s National HIV Behavioral Surveillance among Transgender Women (NHBS-Trans). Transgender women were recruited using respondent-driven sampling from seven urban areas from 2019 to 2020 and participated in an HIV biobehavioral survey. This analysis was restricted to transgender women who visited a HCP in the past 12 months (“healthcare-seeking transgender women” [HSTW]) ($N = 1,489$). Log-linked Poisson regression models provided adjusted prevalence ratios (aPRs) and 95% confidence intervals (CIs) to estimate the association between sexual violence and suicidal ideation in the past 12 months. The interaction between sexual violence and having a gender-affirming HCP was statistically significant (p -value = .034). Among 1,489 HSTW, 225 (15.1%) experienced sexual violence and 261 (17.5%) reported suicidal ideation; 1,203 (80.8%) reported having a gender-affirming HCP. Sexual violence was associated with suicidal ideation (aPR = 2.65, 95% CI [2.08, 3.38]); the association was notably higher among those who did *not* have a gender-affirming HCP (aPR = 3.61, [2.17, 6.02]) than among those who did (aPR = 1.87, [1.48, 2.37]). Eliminating transphobia and promoting trauma- and violence-informed approaches in healthcare are necessary for sexual violence and suicide prevention among HSTW.

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Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Keywords

transgender women; suicide; sexual violence; coerced sex; healthcare discrimination

Introduction

Sexual violence is defined as non-consensual attempted or completed physical or verbal sexual acts with a victim, such as rape, sexual coercion, unwanted fondling, and voyeurism (Basile et al., 2014). Compared to cisgender women,¹ transgender women report a higher prevalence of sexual violence (Connolly et al., 2021; Coulter et al., 2017). The influence of transmisogyny (Matsuzaka & Koch, 2018), an intersection of stigma and discrimination based on transgender identity and social status as feminine (Serano, 2007, 2016), highlights differences between transgender women's and cisgender women's experience of sexual violence. Sexual violence among transgender women may occur throughout the life course and involve various perpetrators, such as acquaintances, strangers, friends, relatives, and intimate partners (Fernández-Rouco et al., 2017). Subpopulations of transgender women are disproportionately affected by sexual violence, particularly those who are Black (Coulter et al., 2017), those experiencing unstable housing (Jackson et al., 2022), and those living with HIV (Smith et al., 2017). Compared to cisgender people, transgender and gender diverse (TGD) individuals are not only more likely to experience sexual violence but also experience higher prevalence of adverse mental health sequelae, such as suicidal ideation (Kidd et al., 2023; Wolford-Clevenger et al., 2018) and attempt (Bränström et al., 2022; Kidd et al., 2023; Toomey et al., 2018). In a recent national survey among adults in the United States (U.S.), it was found that, compared to cisgender adults, transgender adults have significantly higher prevalence of suicidal ideation (44.4% vs. 10.5%) and attempt (6.9% vs. 1.0%) in the past year (Kidd et al., 2023).

Apart from sexual violence, TGD people in the U.S. experience social disadvantages and systematic oppression, including various forms of abuse, violence, harassment, and homicide (Cicero et al., 2019; Jauk, 2013; Lantz et al., 2024; Wirtz et al., 2020; (Eustaquio, Olansky, Lee, Marcus and Cha, 2024)). These pervasive adverse social experiences are often generalized to various environments where TGD people are born, live, work, and age, and even exist in help-giving resources such as healthcare (Cicero et al., 2019). Many TGD people, in particular, transgender women, who have experienced sexual violence do not access care due to actual and anticipated experiences with transphobia, apathy, and victimization in healthcare settings and rape crisis centers (Bach et al., 2021; Cicero et al., 2019; Hawkey et al., 2021; Munson & Cook-Daniels, 2016). These adverse healthcare experiences are also associated with suicidal behavior (Romanelli et al., 2018). Being silent about or non-disclosure of experiences with sexual violence to potential support sources is a common coping mechanism (Fernández-Rouco et al., 2017), which further perpetuates marginalization of transgender women. Multiple intersecting forms of stigma from being transgender or feminine, belonging to a racial/ethnic minority group, having sexually

¹The World Professional Association for Transgender Health (Coleman et al., 2022) defines cisgender women as individuals who currently identify with the gender congruent to their sex assigned at birth, whereas transgender women are individuals who currently identify or express genders that are not stereotypically expected of their sex assigned at birth.

transmitted infections, and, for some, engagement in sex work, may preclude disclosure and management of sexual violence (Du Mont, Kosa, Abavi, et al., 2021; Steele et al., 2020; Tan et al., 2020). A few studies have assessed transgender women's level of comfort with healthcare providers (HCP) for discussing gender-related issues (Bauer et al., 2015; Bradford et al., 2013; Scheim et al., 2021), yet it remains unknown how this could influence mental health among transgender women experiencing sexual violence.

The gender minority stress model (Tan et al., 2020; Testa et al., 2017) provides a framework to examine the influence of unique stressors among gender minorities on health outcomes. The model posits that identifying with a gender minority is subject to distal stressors, which are external to the individual (e.g., discrimination and violence), and proximal stressors, which are internal processes (e.g., negative introspection, concealment, and internalized transphobia). These stressors may contribute to poorer health outcomes, including suicidal ideation and behaviors. Additionally, resilience factors, for example, community connectedness, pride, and social support, have been suggested to buffer these effects (Eustaquio et al., 2024; Testa et al., 2015, 2017; Trujillo et al., 2017).

This analysis aims to evaluate the association between sexual violence and suicidal ideation and the moderating effects of having an HCP with whom transgender women were comfortable discussing gender-related issues. Understanding these relationships could inform trauma- and violence-informed care and policy-level interventions tailored to lived experiences of transgender women, particularly those experiencing sexual violence.

Methods

Data Source

This is an analysis of cross-sectional data from the Centers for Disease Control and Prevention's (CDC's) National HIV Behavioral Surveillance among Transgender Women (NHBS-Trans) conducted from June 2019 to February 2020 to assess behavioral risks, HIV prevalence, and access to HIV prevention and treatment services among transgender women in seven U.S. urban areas. Individuals were recruited using respondent-driven sampling (Heckathorn, 1997). Initial participants ("seeds") who were eligible and completed the interview were asked to recruit up to five transgender women whom they knew personally. Those persons ("recruits") completed the interview and were asked to recruit others. This recruitment process continued until the sample size was reached or the data collection period ended. Those who were 18 years, assigned male or intersex at birth, identified as a woman or transgender woman, and who consented to participate completed an interviewer-administered questionnaire and were offered HIV testing. More information on the NHBS-Trans methodology is published elsewhere (Centers for Disease Control and Prevention, 2017; (Kanny et al., 2024)). NHBS-Trans was determined by CDC to be a routine disease surveillance activity and, hence, exempt from CDC institutional review board (IRB) review; it was reviewed by local IRBs in each participating urban area where required (Centers for Disease Control and Prevention, 2017; Kanny et al., 2022).

This analysis included participants who visited an HCP within the 12 months before their interview and provided valid responses to the exposure, outcome, and moderator variables

of interest. A healthcare visit in the past 12 months was used as a proxy for “healthcare-seeking” transgender women (HSTW).

Measures

The gender minority stress model (Testa et al., 2017) provided the conceptual framework to assess the association between the exposure, that is, sexual violence in the past 12 months (*yes/no* to “Have you been forced to have sex when you did not want to? By forced, I mean physically forced or verbally threatened. By sex, I mean any sexual contact”), and the outcome, that is, suicidal ideation in the past 12 months (*yes/no* to “Did you seriously think about trying to kill yourself?”). The effect modifier was having a gender-affirming HCP (*yes/no* to “Do you have a healthcare provider with whom you feel comfortable discussing gender-related health issues?”). Potential covariates were determined a priori based on the literature (Green et al., 2022; Herman et al., 2019; Trujillo et al., 2017), which included age, race/ethnicity, poverty level, education, hormonal and surgical gender-affirmation status, HIV test result, illicit drug use (excluding marijuana), disability, homelessness, incarceration, receiving money or drugs for sex, and perceived social support measured using the Multidimensional Scale of Perceived Social Support (Cronbach’s $\alpha = .97$) (Zimet et al., 1988) (Figure 1).

Analysis

Participant characteristics were summarized overall and by sexual violence experience. Using complete case analyses, log-linked Poisson regression models with generalized estimating equations with an exchangeable correlation matrix (Hubbard et al., 2010) and robust variance estimator (Martinez et al., 2017) generated adjusted prevalence ratios (aPRs) with 95% confidence intervals (CIs). All models controlled for network size and city and clustered on recruitment chain. Multivariable models were further adjusted for age, race/ethnicity, and HIV status to assess the association between sexual violence and suicidal ideation. Moderation was assessed using a two-way interaction term on a multiplicative scale (Knol & VanderWeele, 2012) between sexual violence and having a gender-affirming HCP. Results were stratified due to the significant interaction term (p -value = .034). All statistical analyses were conducted using SAS (version 9.4; SAS Institute, Cary, North Carolina, U.S.).

Results

The sample included a total of 1,489 transgender women who visited an HCP in the past 12 months. Many were 39 years old and younger (58.6%), Black (35.5%), Hispanic (39.9%), and living at or below the federal poverty level (62.7%) (Table 1). Around three-quarters (73.5%) were currently taking gender-affirming hormonal therapy; only 28.1% reported not wanting any or additional gender-affirming surgical procedures. A high percentage of HSTW were currently homeless or experienced homelessness in the past 12 months (40.8%), ever experienced incarceration (59.1%), and reported current low to moderate perceived social support (38.1%). Four in five HSTW (80.8%) reported having a gender-affirming HCP.

One in six (15.1%) HSTW experienced sexual violence in the past 12 months (Table 1). Factors associated with sexual violence included age, race/ethnicity, poverty, gender-affirming surgery status, disability, illicit drug use, receiving money or drugs for sex, incarceration, homelessness, and perceived social support ($p < .05$). The prevalence of sexual violence was highest among HSTW who were 25 to 29 years old (21.8%), who lived at or below the poverty level (16.6%), with disability (17.6%), who reported illicit drug use in the past 12 months (23.9%), who received money or drugs for sex in the past 12 months (27.3%), and who were incarcerated in the past 12 months (22.8%). Prevalence of sexual violence was lowest among HSTW who were Black (11.2%), those who did not want any or additional gender-affirming procedures (9.8%), those not homeless in the past 12 months (10.3%), and those with high perceived social support (11.4%).

Nearly 18% of HSTW reported suicidal ideation in the past 12 months. After adjusting for network size and city, sexual violence was associated with suicidal ideation (aPR = 2.65, 95% CI [2.08, 3.38]) (Table 1). Among HSTW who had a gender-affirming HCP, those who experienced sexual violence had an 87% higher prevalence of suicidal ideation than those who did not experience sexual violence (stratified aPR = 1.87, [1.48, 2.37]) (Table 2). Among HSTW who did not have a gender-affirming HCP, those who experienced sexual violence had a 261% higher prevalence of suicidal ideation than those who did not experience sexual violence (stratified aPR = 3.61, [2.17, 6.02]). In the absence of sexual violence, *not* having a gender-affirming HCP was associated, albeit not statistically significant, with lower prevalence of suicidal ideation (aPR = 0.68, [0.47, 1.01]). HSTW who experienced sexual violence and who did not have a gender-affirming HCP had a 148% increased prevalence of suicidal ideation compared with those who had not experienced sexual violence and had a gender-affirming HCP (aPR = 2.48, [1.70, 3.61]).

Discussion

Among transgender women who saw an HCP, 15.1% experienced sexual violence, and 17.5% seriously considered suicide. Eight in 10 (80.8%) reported having a gender-affirming HCP. Sexual violence was significantly associated with a higher prevalence of suicidal ideation, and this association was much stronger among HSTW who did not have a gender-affirming HCP than among those who did.

The prevalence of sexual violence among transgender women varies across different studies and subpopulations from 10.0% to 52.2% in the past 12 months (Eustaquio et al., 2024; James et al., 2016; Salazar et al., 2017; Yamanis et al., 2018) and 14.9% to 37.0% in their lifetime (Bockting et al., 2013; Garthe et al., 2021; James et al., 2016). Factors associated with experiencing sexual violence collectively demonstrate the synergy of transmisogyny with other oppressive sociopolitical and environmental factors, such as classism and ableism (Matsuzaka & Koch, 2018). With fewer life opportunities due to pervasive prejudice and discrimination, transgender women are more likely to engage in survival sex work, be incarcerated, or experience unstable housing compared with cisgender women, leaving them vulnerable to sexual violence (Brömdal et al., 2019; James et al., 2016; Kattari & Begun, 2016; Matsuzaka & Koch, 2018). Such experiences may decrease their access to gender-affirming procedures and consequently lessen their ability to pass as a normative cisgender

woman, likewise exacerbating their vulnerability to sexual victimization (Matsuzaka & Koch, 2018; Meier & Labuski, 2013). Furthermore, these intersecting marginalized identities may lead to avoiding disclosure of sexual violence to various help-giving resources, such as HCPs (O'Connor et al., 2023; Testa et al., 2012).

The current analysis corroborates studies that found the association between experiencing sexual violence and a higher prevalence of suicidal ideation and behaviors among transgender women (Matsuzaka & Koch, 2018; Testa et al., 2012) and TGD people in general (Clements-Nolle et al., 2006; Haas et al., 2019; Testa et al., 2012). This analysis adds to the literature in that among HSTWs experiencing sexual violence, suicidal ideation was higher among those who did not have a gender-affirming HCP compared with those who did. The synergism between sexual violence and not having a gender-affirming HCP toward higher suicidal ideation among transgender women is not surprising; the prevalent transphobic experiences in healthcare settings reported by HSTW, particularly among those who experience sexual violence, often leave their healthcare needs unaddressed and consequently affect their health outcomes. For instance, HSTW experiencing sexual violence often reported experiences of retraumatization, denial of services, and victim-blaming in institutions where they sought care and/or help (Cicero et al., 2019; Du Mont, Kosa, Abavi, et al., 2021; Kattari et al., 2021; Kurdyla, 2023; Magallon & Swadhin, 2023). Transgender people experiencing sexual violence reported less willingness to disclose to, fewer acts of disclosure to, and lower perception of helpfulness of medical doctors compared to friends, parents, or relatives (Kurdyla et al., 2019). Moreover, disclosures of sexual violence among transgender women are often inseparable from disclosure of gender identity and other marginalized identities, including race/ethnicity, disability, and poverty (Kurdyla, 2023; O'Connor et al., 2023; Testa et al., 2012). Therefore, transgender women are less likely to disclose sexual violence experiences to HCPs who do not respect and understand the realities associated with their transgender identities (Kurdyla, 2023). HCPs caring for persons experiencing sexual violence have expressed a need for transgender-specific training to adequately meet the needs of TGD individuals experiencing sexual violence (Du Mont et al., 2019). For example, training on gender-affirming post-sexual violence care improved the perceived competency of gender-affirming care among forensic nurses in sexual assault centers (Du Mont, Kosa, & Macdonald, 2021).

Even among HSTW who reported having an HCP with whom they were comfortable discussing gender-related issues, sexual violence was associated with higher suicidal ideation. This suggests that even having a gender-affirming HCP may not adequately buffer the deleterious effects of sexual violence. Experiences with sexual violence could lead to exacerbation of body or gender dysphoria, emotional dysregulation, post-traumatic stress disorder, substance abuse, anxiety, depression, internalization of social stigma, social isolation, shame, and self-blame (Munson & Cook-Daniels, 2016; Scheer & Poteat, 2021). Sexual violence may also contribute to unstable housing, economic disadvantage, and further marginalization (Hawkey et al., 2021; Kushel et al., 2003). These health and social aftermaths, which often lie outside the scope of a healthcare visit, may mediate the association between sexual violence and suicidal ideation. Therefore, these issues require a larger systemic change and involvement of other help-giving resources from the greater community, such as family and friends, law enforcement, attorneys, shelter providers, and

LGBTQIA+ organizations (Centers for Disease Control and Prevention, 2022c; Kurdyla et al., 2019; Sherman et al., 2022). Sexual violence is a public health problem and can be prevented (American Public Health Association, 2018; Centers for Disease Control and Prevention, 2022b). It is essential that each encounter with different HCPs, such as nurses, doctors, social workers, counselors, and therapists, is an opportunity to screen, educate, prevent, and treat sexual violence (American Public Health Association, 2018); timely linkages to appropriate health and social services should be in place to support all patients regardless of their gender identity.

Interestingly, among HSTW who did not report sexual violence, not having a gender-affirming HCP was associated with lower prevalence of suicidal ideation, though results were not statistically significant. This may be explained by the lack of trust among transgender women toward the healthcare system or other formal institutions known to perpetuate violence, stigma, and discriminatory practices, which may, in turn, compel them to build resilience and seek support from other informal resources, such as trusted peers or TGD community members (Bowling et al., 2019; Kurdyla et al., 2019; O'Connor et al., 2023; Poteat et al., 2013; Sherman et al., 2022). Moreover, the absence of sexual violence does not indicate the absence of other adverse social and health issues, which requires a holistic and comprehensive approach to violence and suicide prevention. Lastly, it may also be that individuals who experience gender dysphoria and gender-related mental health issues were more likely to seek gender-affirming healthcare (Eustaquio et al., 2022; Phillip et al., 2022). Nonetheless, future studies exploring best practices and quality of care for transgender women are warranted, given this counterintuitive finding.

Given the complex intersection of sexual violence, healthcare stigma, and suicidal ideation, transgender women may benefit from the following. First, there is a need to facilitate disclosure of sexual violence to HCPs. Disclosure to HCPs could help address various healthcare needs of transgender women who experience sexual violence, including addressing physical and mental issues and being connected to appropriate help-giving resources, and could lead to improved well-being (Kurdyla, 2023). Having a gender-affirming provider is a critical component in disclosure of sexual violence, as it may be associated with disclosure of gender identity (Kurdyla, 2023). HCPs should also be familiar with and implement patient-centered strategies, ensuring accountability, reliability, responsiveness, and respectfulness (Centers for Disease Control and Prevention, 2022a). Creating an environment that encourages patient and provider discussions about sexual violence could help address the shame and stigma associated with it and provide an opportunity for linkage to care and supporting services for patients experiencing violence (Munson & Cook-Daniels, 2016). Second, there is a need to maximize and strengthen multisectoral and multidisciplinary networks of gender-affirming practices, which should include community-based organizations and transgender providers (Centers for Disease Control and Prevention, 2019, 2022a; Scheim et al., 2022). Collaboration with existing large networks focused on violence prevention among LGBTQIA+ persons, such as the National Coalition of Anti-Violence Programs in the United States, would not only provide opportunities for health and social services for sexual violence prevention and management (e.g., medical, mental health, shelter, and redress services), but also for broader sociocultural, political, and environmental changes (Du Mont et al., 2020; National

Coalition of Anti-Violence Programs, 2017). Gender-focused networks facilitate TGD community connectedness, resilience, and trust, which may increase utilization of help-giving resources (Sherman et al., 2022). Given the lack of trust toward formal help-giving resources and the affinity toward non-institutionalized help-giving resources, for example, partners, friends, and family, among transgender women experiencing sexual violence and other forms of violence and harassment, strengthening these social support networks could support victims of sexual violence (Eustaquio et al., 2024; Kurdyla, 2023). Third, HCPs should implement trauma- and violence-informed care. This approach assumes individuals seeking healthcare services have potentially experienced or are experiencing various forms of interpersonal and structural violence and trauma, which warrants that providers act with cultural sensitivity, build on the individual's strengths, and minimize retraumatization (Prevention Institute, n.d.; Scheer & Poteat, 2021; U.S. Department of Health Human Services, 2014; Wathen et al., 2023). Among sexual and gender minority individuals experiencing intimate partner violence, including sexual violence, trauma- and violence-informed care was associated with greater sense of empowerment and regulation of emotion, lower social withdrawal, and better mental health outcomes (Scheer & Poteat, 2021).

This analysis is subject to limitations. First, causality and temporality cannot be inferred due to the cross-sectional design. Thus, the specific order of experiences with sexual violence, suicidal ideation, or HCP visits in the past 12 months is unknown, and how these factors could potentially influence participants' perceptions about their HCPs. Second, generalization of findings is limited to healthcare-seeking individuals in urban areas due to the recruitment strategy and analytical approach. This is neither generalizable to all transgender women nor to individuals from other genders, including cisgender and other TGD individuals. Further, given the peer recruitment approach (Jackson et al., 2022), participants may likely have the same characteristics as their recruits, including experiences with sexual violence. Third, data may be influenced by information bias. The measure of sexual violence was limited to forced sex by physical and/or verbal threats and excludes other forms of threats to coerce sex (e.g., economic, mental) and other forms of sexual violence (e.g., voyeurism and unwanted touching). Hence, the prevalence of sexual violence may be underestimated, and this may have influenced the association and moderation estimates. Specific information on the healthcare visit was limited in terms of its purpose (e.g., sexual violence, mental health, or something else), the timing in relation to experiences with sexual violence or suicidal ideation, and whether it was with the gender-affirming HCP. Likewise, specific information was limited on the type of provider (e.g., nurses, doctors, counselors, or others) with whom they felt comfortable discussing gender-related issues. Given the high lifetime prevalence of sexual violence among transgender women (Bockting et al., 2013; Garthe et al., 2021; James et al., 2016), some participants who did not experience sexual violence recently may have experienced it more than 12 months ago (Kurdyla et al., 2019). Additionally, recall and social desirability biases and trauma may influence the self-reported data. Last, there may be unmeasured confounding (e.g., mental health comorbidities) which may have biased the results.

Many transgender women experience sexual violence. Among HSTW, experiences of sexual violence were associated with increased prevalence of suicidal ideation, particularly

among those who did not have a gender-affirming HCP. Findings suggest the need to improve integration of violence prevention and mental health services in primary or gender-affirming care of transgender women. Eliminating transphobia and implementing trauma- and violence-informed approaches in healthcare are necessary for sexual violence and suicide prevention among transgender women who seek care.

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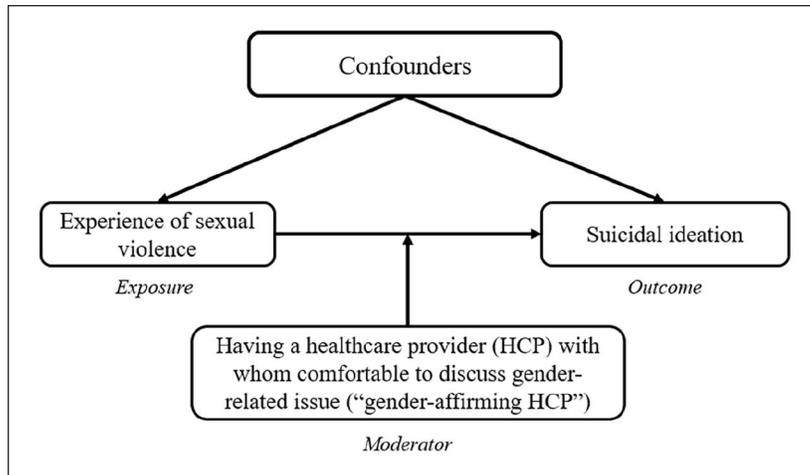


Figure 1.
Conceptual framework of the analysis.

Table 1.

Participant Characteristics by Experience of Sexual Violence Among Transgender Women Who Visited a Healthcare Provider in the Past 12 Months—National HIV Behavioral Surveillance Among Transgender Women in Seven Urban Areas, June 2019 to February 2020.

Characteristics	Sexual Violence in the Past 12 Months						aPRP [95% CI] [†]
	Overall Sample		Yes		No		
	<i>n</i> [*]	Column % [*]	<i>n</i> [*]	Row %	<i>n</i> [*]	Row %	
Overall	1,489	100	225	15.1	1,264	84.9	
Age at interview (year)							
18–24	173	11.6	32	18.5	141	81.5	1.00 [Ref]
25–29	285	19.1	62	21.8	223	78.2	1.20 [0.82, 1.74]
30–39	415	27.9	74	17.8	341	82.2	0.96 [0.72, 1.28]
40–49	286	19.2	36	12.6	250	87.4	0.61 [0.39, 0.93]
50	330	22.2	21	6.4	309	93.6	0.29 [0.17, 0.47]
Race/ethnicity [§]							
White	169	11.3	32	18.9	137	81.1	1.00 [Ref]
Black	529	35.5	59	11.2	470	88.8	0.60 [0.39, 0.92]
Hispanic	594	39.9	102	17.2	492	82.8	0.87 [0.62, 1.21]
Other	76	5.1	14	18.4	62	81.6	0.97 [0.52, 1.79]
Poverty [¶]							
Above the federal poverty level	545	36.6	68	12.5	477	87.5	1.00 [Ref]
At or below the federal poverty level	934	62.7	155	16.6	779	83.4	1.33 [1.05, 1.68]
Education							
Less than high school	321	21.6	50	15.6	271	84.4	1.00 [Ref]
High school diploma or equivalent	541	36.3	75	13.9	466	86.1	1.06 [0.75, 1.51]
More than high school	493	33.1	80	16.2	413	83.8	0.91 [0.69, 1.2]
GAHT status							
Do not want to take GAHT	103	6.9	15	14.6	88	85.4	1.00 [Ref]
Currently taking GAHT	1,094	73.5	163	14.9	931	85.1	1.05 [0.6, 1.83]
Want to take GAHT	274	18.4	45	16.4	229	83.6	1.19 [0.75, 1.9]
GAS status							
Does not want any/additional procedures	418	28.1	41	9.8	377	90.2	1.00 [Ref]
Underwent GAS, desire additional procedures	218	14.6	42	19.3	176	80.7	1.72 [1.33, 2.22]
Has not undergone GAS, desire additional procedures	770	51.7	128	16.6	642	83.4	1.96 [1.37, 2.81]
HIV test result ^{**}							
Negative	818	54.9	139	17.0	679	83.0	1.00 [Ref]
Positive	630	42.3	83	13.2	547	86.8	0.79 [0.62, 1.02]
Disability							
No	687	46.1	84	12.2	603	87.8	1.00 [Ref]
Yes	795	53.4	140	17.6	655	82.4	1.40 [1.16, 1.69]

Characteristics	Sexual Violence in the Past 12 Months						aPRP [95% CI] [†]
	Overall Sample		Yes		No		
	<i>n</i> [*]	Column % [*]	<i>n</i> [*]	Row %	<i>n</i> [*]	Row %	
Illicit drug use ^{‡‡}							
No	876	58.8	79	9.0	797	91.0	1.00 [Ref]
Yes	610	41.0	146	23.9	464	76.1	2.79 [2.11, 3.68]
Incarceration ^{§§}							
Never incarcerated	608	40.8	86	14.1	522	85.9	1.00 [Ref]
Incarcerated over 12 months ago	625	42.0	81	13.0	544	87.0	0.91 [0.73, 1.13]
Incarcerated in the past 12 months	254	17.1	58	22.8	196	77.2	1.67 [1.32, 2.12]
Homelessness							
Not homeless in the past 12 months	880	59.1	91	10.3	789	89.7	1.00 [Ref]
Homeless in the past 12 months but not currently	283	19.0	60	21.2	223	78.8	2.29 [1.7, 3.08]
Currently homeless	324	21.8	74	22.8	250	77.2	2.09 [1.53, 2.86]
Received money or drugs for sex in the past 12 months							
No	983	66.0	87	91.1	896	8.9	1.00 [Ref]
Yes	506	34.0	138	27.3	368	72.7	3.28 [2.49, 4.30]
Perceived social support ^{¶¶}							
High	918	61.7	105	11.4	813	88.6	1.00 [Ref]
Moderate	493	33.1	102	20.7	391	79.3	1.81 [1.44, 2.26]
Low	74	5.0	18	24.3	56	75.7	2.15 [1.2, 3.86]
Have a gender-affirming healthcare provider							
No	286	19.2	51	17.8	235	82.2	1.00 [Ref]
Yes	1,203	80.8	174	14.5	1,029	85.5	0.80 [0.62, 1.03]
Suicidal ideation in the past 12 months							
No	1,228	82.5	146	11.9	1,082	88.1	1.00 [Ref]
Yes	261	17.5	79	30.3	182	69.7	2.65 [2.08, 3.38]

Note: aPR = adjusted prevalence ratio; CI = confidence interval; GAHT = gender-affirming hormonal therapy; GAS = gender-affirming surgery; NHBS = National HIV Behavioral Surveillance; Ref = reference.

* *n* may not sum up to total and column percentages may not sum to 100% due to missing values.

[†] Models were adjusted for network size and city and clustered on recruitment chains; prevalence ratios and 95% confidence intervals that are bold and italicized are significant at *p*-value <.05.

[§] All racial/ethnic groups are mutually exclusive; Hispanic/Latina persons could be of any race.

[¶] Income at or below the Health and Human Services poverty guidelines, defined by the U.S. Department of Health and Human Services in 2019, available at <https://aspe.hhs.gov/2019-poverty-guidelines>.

** Participants with reactive rapid NHBS HIV test results supported by a second rapid test or supplemental laboratory-based testing.

^{‡‡} In the past 12 months; excludes marijuana.

^{§§} Held in a detention center, jail, or prison for more than 24 hours.

^{¶¶} Measured using the Multidimensional Scale of Perceived Social Support, categorized as low (mean < 2.14), moderate (2.14 – mean < 3.57), and high (mean ≥ 3.57) (Cronbach's $\alpha = .97$).

Table 2.

Association Between Sexual Violence and Suicidal Ideation and Moderation by Having a Gender-Affirming Healthcare Provider Among Transgender Women Who Visited a Healthcare Provider in the Past 12 months—National HIV Behavioral Surveillance Among Transgender Women in Seven Urban Areas, June 2019 to February 2020.

	<u>Sexual violence in past 12 months</u>		Stratified (aPR) [95% CI]*
	<u>No</u>	<u>Yes</u>	
Have a gender-affirming healthcare provider	aPR [95% CI]*	aPR [95% CI]*	
Yes	1.00 [Reference]	1.87 [1.48, 2.37]	1.87 [1.48, 2.37]
No	0.68 [0.47, 1.01]	2.48 [1.70, 3.61]	3.61 [2.17, 6.02]

Note: Measure of interaction on multiplicative scale: ratio of PRs [95% CI] = 1.93 [1.05, 3.55], p -value = .034. aPR = adjusted prevalence ratio; CI = confidence intervals.

* Models were adjusted for age, race/ethnicity, HIV status, network size, and city and clustered on recruitment chains; prevalence ratios and 95% confidence intervals that are bold and italicized are significant at p -value < .05.